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APPLICANT : NISSHOKU CORP;

INVENTOR : KAWASAKI HITOSHI;

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TITLE : CALCIUM-CONTAINING POROUS CARBON MATERIAL

ABSTRACT : PROBLEM TO BE SOLVED: To efficiently remove chlorine-containing gases, SO_x, etc., in waste gas by carbonizing a vegetable porous material after immersion in a calcium hydroxide solution or suspension in such a way that calcium compounds are finely and highly dispersed in the resulting carbonized texture.

SOLUTION: A vegetable porous material such as ordinary wood with tracheae or tracheids is immersed in a calcium hydroxide solution (lime water) or suspension (milk of lime) for about ≥3 hr in such an extent that lime does not stick to the surface of the material. The material is then taken out, dried and carbonized at about 400-1,300°C, preferably 600-1,000°C using an ordinary carbonization furnace in such a way that calcium compounds (mainly CaCO₃) are finely and highly dispersed in the resulting carbonized texture. Palm fibers, jute, flax or areca may be used as the vegetable porous material. It is necessary that about ≥1% (expressed in terms of Ca) calcium compounds are incorporated so as to enhance reactivity.

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